CAULERPA RACEMOSA (CHLOROPHYTA) ON THE GREEK COASTS

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The green alga *Caulerpa racemosa* (Forsskal) J. Agardh (Caulerpaceae, Bryopsidales) is a species with tropical and subtropical distribution (Taylor, 1960), rare in the Mediterranean (Boudouresque *et al.*, 1990). Suddenly a massive occurence is reported from the Mediterranean coasts of Egypt (Aleem, 1992) and one year later Alongi *et al.* (1993) reported *C. racemosa* in the southern Italian coasts. During the same period the expansion in the Mediterranean of the also tropical *Caulerpa taxifolia* (Vahl) C. Agardh is reported (Boudouresque *et al.*, 1992).

Samplings were carried out by SCUBA diving in Laganas Bay (Zakynthos Island, 37:40 N, 20:45 E) during summer 1993 and by draging in Pylos Bay (Western Greek coasts, 36:50 N, 21:40 E), during autumn 1993. The *C. racemosa* specimens were found on *Posidonia oceanica* (L.) Delile beds at 25-35 m depth. Specimens were fixed in formalin 4% and examined in the NCMR laboratory of phytobenthos.

The examined specimens (Figure 1) are very similar with *C. racemosa v. macrophysa* (Kutzing) Taylor, described by Taylor, (1960). The cylindric stolons are 2-3 mm large, and the erect axes are 2 mm large and 3.0-10.0 cm long. The branchlets are attached to them at intervals of 3-5 mm. The branchlets are subconical 3-4 mm long, and 2-3 mm large.

The examined specimens were collected on seagrass beds where they formed small patches covering the free space between the *P. oceanica* shoots. The studied areas are oligotrophic (*P. oceanica* deeper limit at 40 m. depth). Ben Maiz (1984) and Aleem (1992) reported the presence of *C. racemosa* on shallow rocky coasts near urban areas. The examined specimens are different from those described by Ben Maiz (1984). Nevertheless, *C. racemosa* is a very polymorphic species and the genetic value of the varieties is doubtful. Calvert (1976) reports that assimilators of var. *macrophysa* in the 1350 lx culture are 1-3 cm tall and bear uncrowded imbricate ramuli, similar to the speciments of *C. racemosa* described by Ben Maiz (1984). The same material at 650 lx culture presented assimilators which showed a marked elongation up to 10 cm, the ramular placement became bilateral with opposite ramuli spaced at 5-7 mm, similar to our specimens. The var. *macrophysa* is new for the mediterranean but it is possible that the differences between our specimens and the earlier reports are due to the different light conditions of the sampling sites.

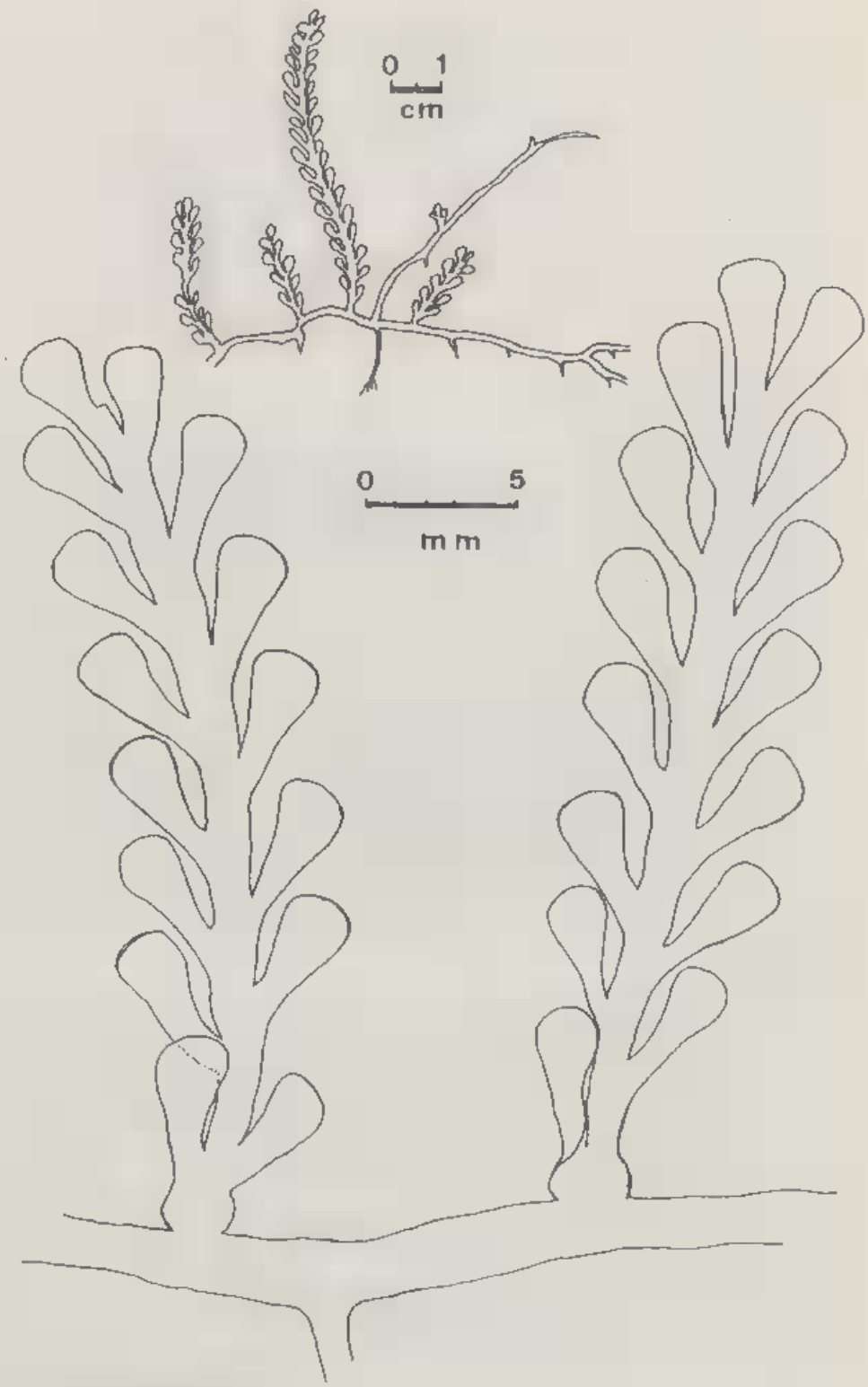

Figure 1. The examined specimens.

In the Mediterranean it is already known the opportunistic behaviour of some other subtropical species as *Halophila stipulacea* (Lessepsian migrator) and *Caulerpa prolifera*, which are very abundant in the free spaces between *P. oceanica* shoots, when there is a decline of the seagrass beds due to the pollution (Panayotidis, 1988). It is also known that the man introduced species *Caulerpa taxifolia* has an antagonistic behavior against *P. oceanica* (Villele & Verlaque, 1992). Thus, it is interesting to survey the distribution *C. racemosa* in the Greek coasts for the next years, in order to compare the ecological strategies of the tropical species (induced or not) in the Mediterranean under the global climat changes point of view.

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